

What is claimed is:

1. A medical device comprising a core material and an antimicrobial LbL coating that is not covalently attached to the core material, wherein the antimicrobial LbL coating includes:
 - (a) a polyelectrolyte LbL coating and an peptide layer of one or more antimicrobial peptides, wherein the polyelectrolyte LbL coating is composed of
 - (i) at least one layer of a first polyionic material, or
 - (ii) at least one layer of the first polyionic material and at least one layer of a second polyionic material having charges opposite of the charges of the first polyionic material,
 wherein said first and second polyionic materials, independently of each other, have functional groups which provide reactive sites, and wherein the peptide layer of one or more antimicrobial peptides are covalently attached to the LbL coating through the reactive sites; or
 - (b) at least one bilayer consisting of one cationic layer of a mixture including a positively-charged polyionic material and one or more antimicrobial peptides and one anionic layer of a negatively charged polyionic material.
2. A medical device of claim 1, wherein said one or more antimicrobial peptides are selected from the group consisting of Cecropin A melittin hybrid, indolicidin, lactoferricin, Defensin 1, Bactenecin (bovin), Magainin 2, mutacin 1140, functionally equivalent or superior analogs thereof, and mixtures thereof.
3. A medical device of claim 1, wherein said one or more antimicrobial peptides are selected from the group consisting of Cecropin A melittin hybrid and indolicidin.
4. A medical device of claim 2, wherein the medical device comprises a polyelectrolyte LbL coating and an peptide layer of one or more antimicrobial peptide, wherein the polyelectrolyte LbL coating is composed of (i) at least one layer of a first polyionic material or (ii) at least one layer of the first polyionic material and at least one layer of a second polyionic material having charges opposite of the charges of the first polyionic material, wherein said first and second polyionic materials, independently of each other, have functional groups which provide reactive sites, and wherein the peptide layer of one or more antimicrobial peptides are covalently attached to the LbL coating through the reactive sites.
5. A medical device of claim 4, wherein one of the first and second polyionic materials is a polyanionic material and the other is a polycationic material, wherein the polyanionic material is selected from the group consisting of polyacrylic acid, polymethacrylic acid, poly(thiophen-3-acetic acid), poly(4-styrenesulfonic acid), PAMAM dendrimers, PAAm-co-

PAA, PVP-co-PAA, hyaluronic acid, glycosaminoglycans, fucoidan, poly-aspartic acid, poly-glutamic acid, carboxymethyl cellulose, carboxymethyl dextrans, alginates, pectins, gellan, carboxyalkyl chitins, carboxymethyl chitosans, sulfated polysaccharides, derivatives thereof and mixtures thereof, wherein the polycationic material is selected from the group consisting of poly(allylamine hydrochloride), poly(ethyleneimine), poly(vinylbenzyltrimethylamine), polyaniline, polypyrrole, poly(pyridinium acetylene), polyquat, polyaminoamide, poly- ϵ -lysine, albumin or collagen, aminoalkylated polysaccharides, derivatives thereof and mixtures thereof.

6. A medical device of claim 5, wherein the medical device is a contact lens.
7. A contact lens of claim 6, wherein the contact lens is a hydrogel contact lens.
8. A medical device of claim 2, wherein the medical device comprises at least one bilayer consisting of one cationic layer of a mixture including a positively-charged polyionic material and one or more antimicrobial peptides and one anionic layer of a negatively charged polyionic material.
9. A medical device of claim 8, wherein the negatively-charged polyionic material is selected from the group consisting of polyacrylic acid, polymethacrylic acid, poly(thiophen-3-acetic acid), poly(4-styrenesulfonic acid), PAMAM dendrimers, PAAm-co-PAA, PVP-co-PAA, hyaluronic acid, glycosaminoglycans, fucoidan, poly-aspartic acid, poly-glutamic acid, carboxymethyl cellulose, carboxymethyl dextrans, alginates, pectins, gellan, carboxyalkyl chitins, carboxymethyl chitosans, sulfated polysaccharides, derivatives thereof and mixtures thereof, wherein the positively-charged polyionic material is selected from the group consisting of poly(allylamine hydrochloride), poly(ethyleneimine), poly(vinylbenzyltrimethylamine), polyaniline, polypyrrole, poly(pyridinium acetylene), polyquat, polyaminoamide, poly- ϵ -lysine, albumin or collagen, aminoalkylated polysaccharides, derivatives thereof and mixtures thereof.
10. A medical device of claim 9, wherein the medical device is a contact lens.
11. A contact lens of claim 10, wherein the contact lens is a hydrogel contact lens.
12. A method for making a medical device having an antimicrobial LbL coating, comprising the steps of: a) applying an LbL coating onto the surface of the medical device, wherein the LbL coating is not covalently attached to the medical device and is composed of (i) at least one layer of a first polyionic material which is not covalently attached to the surface of the medical device or (ii) at least one layer of the first polyionic material which is not covalently attached to the surface of the medical device and at least one layer of a second polyionic material having charges opposite of the charges of the first polyionic material, wherein said

first and second polyionic materials, independently of each other, have functional groups which provide reactive sites; and b) covalently attaching a layer of one or more antimicrobial peptides to the LbL coating through said reactive sites

13. A method of claim 12, wherein the step of applying is performed according to a solely dip-coating process, a solely spray-coating process, or combinations thereof.
14. A method for making a medical device having an antimicrobial LbL coating, comprising the steps of: alternatively applying one positively-charged layer of a mixture including a polycationic material and at least one antimicrobial peptide and one negatively-charged layer of a polyanionic material onto a medical device to form the antimicrobial LbL coating.
15. A method of claim 14, wherein the step of applying is performed according to a solely dip-coating process, a solely spray-coating process, or combinations thereof.
16. A medical device comprising a layer of one or more antimicrobial peptides covalently attached to the medical device, wherein said one or more antimicrobial peptides are selected from the group consisting of Cecropin A melittin hybrid, Indolicidin, lactoferricin, Defensin 1, Bactenecin (bovine), Magainin 2, mutacin 1140, functionally equivalent or superior analogs thereof, and mixtures thereof.
17. A medical device of claim 16, wherein said one or more antimicrobial peptides are selected from the group consisting of Cecropin A melittin hybrid and Indolicidin.
18. A medical device of claim 16, wherein the medical device is a contact lens.
19. A method for forming an antimicrobial LbL coating on a medical device, comprising the steps of: functionalizing the surface of the medical device to provide reactive sites; and covalently attaching a layer of at least one antimicrobial peptide onto the medical device through said reactive sites, wherein said one or more antimicrobial peptides are selected from the group consisting of Cecropin A melittin hybrid, Indolicidin, lactoferricin, Defensin 1, Bactenecin (bovine), Magainin 2, mutacin 1140, functionally equivalent or superior analogs thereof, and mixtures thereof.
20. A method of claim 19, wherein said one or more antimicrobial peptides are selected from the group consisting of Cecropin A melittin hybrid and Indolicidin.